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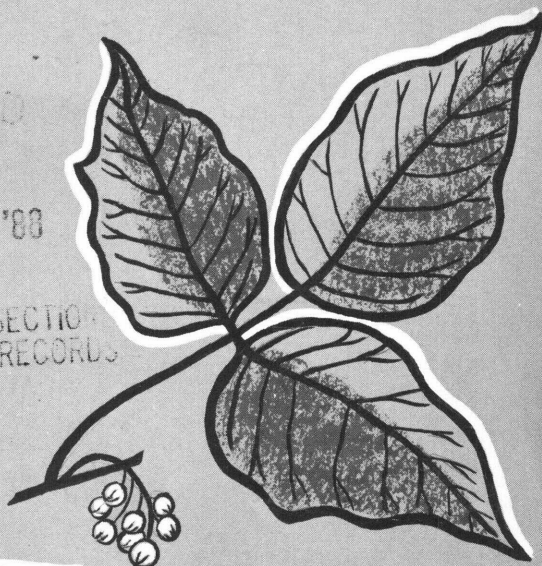
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POISON IVY POISON OAK and POISON SUMAC

IDENTIFICATION
PRECAUTIONS
ERADICATION

NOV 6 '88

PROCUREMENT SECTION
CURRENT SERIAL RECORDS



FARMERS' BULLETIN NO. 1972
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POISON IVY, POISON OAK, AND POISON SUMAC

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Many people are accidentally poisoned each year from contact with plants that they did not know were harmful. If they had known how to recognize these poisonous plants, they could have escaped the painful experience of severe skin inflammation and water blisters. Few persons have sufficient immunity to protect them from poisonous plants. Many people do not recognize these plants although they occur in almost every part of the United States in one or more of their various forms.

Poisoning is largely preventable. A knowledge sufficient to identify plants in their various forms is easily gained by anyone who will study pictures and general descriptions, then train himself by diligent practice in observing the plants in his locality. Children should be taught to recognize the plants and to become poison ivy conscious.

POISON IVY AND POISON OAK

Poison ivy and poison oak are known by a number of local names, and several different kinds of plants are called by these names. Plants vary greatly throughout the United States. They grow in the form of: (1) woody vines attached to trees or objects for support, (2) trailing shrubs mostly on the ground, or (3) erect woody

shrubs entirely without support. They may flourish in the deep woods, where soil moisture is plentiful, or in very dry soil on the most exposed hillsides. Plants are most frequently abundant along old fence rows and edges of paths and roadways. They ramble over rock walls and climb posts or trees to considerable height. Often they grow with other shrubs or vines in such ways as to escape notice.

Leaf forms among plants or even on the same plant are as variable as the habit of growth; however, the leaves always consist of three leaflets. The old saying, "Leaflets three, let it be," is a reminder of this consistent leaf character, but may lead to undue suspicion of some harmless plant. Only one three-part leaf leads off from each node on the stem. Leaves never occur in pairs along the stem.

Flowers and fruit are always in clusters on slender stems that originate

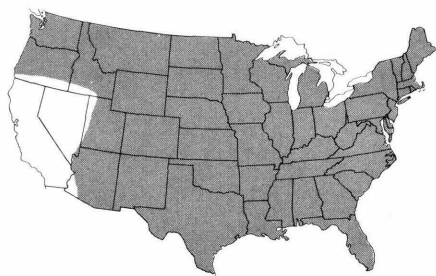


Figure 1. The shaded part shows the extensive area where some form of common poison ivy may grow.

in the axis of the leaves along the side of the smaller branches. Berrylike fruits usually have a white, waxy appearance and ordinarily are not hairy, but may be so in some forms. The plants do not always flower and bear fruit. The white or cream-colored

clusters of fruit, when they occur, are significant identifying characters, especially after the leaves have fallen.

For convenience, these plants are discussed under three divisions—common poison ivy, oakleaf poison ivy, and western poison oak.



BF1-309

Figure 2. Large leafy branches of poison ivy covering lower trunk of tree. Rope-like vine more than 2 inches in diameter extends upward to top of tree. Clump of smooth sumac in lower left and single plant of staghorn sumac in lower right, both nonpoisonous.



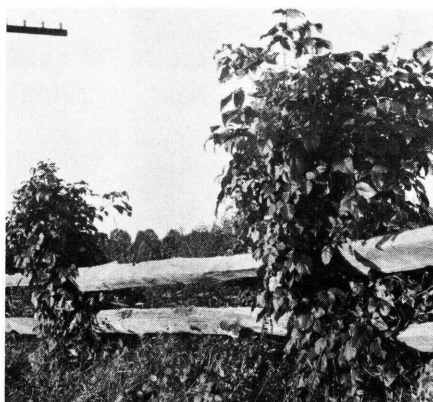
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Figure 3. *A*, Common poison ivy growing in a hedge and on a shade tree on the edge of a lawn. *B*, Typical vine, showing leaves and the roots that attach it to the tree.



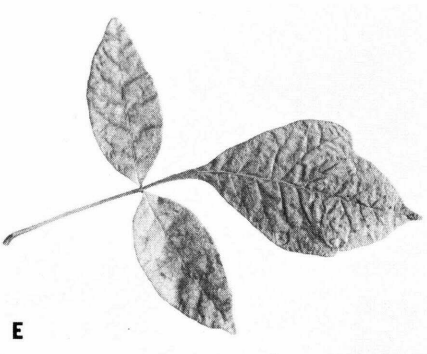
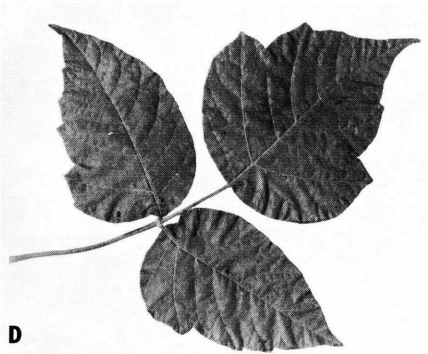
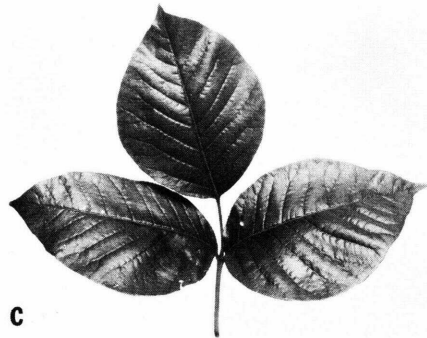
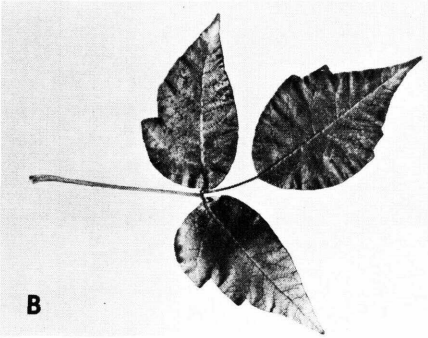
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Figure 4. Common poison ivy growing on side of house with ornamental shrubs.



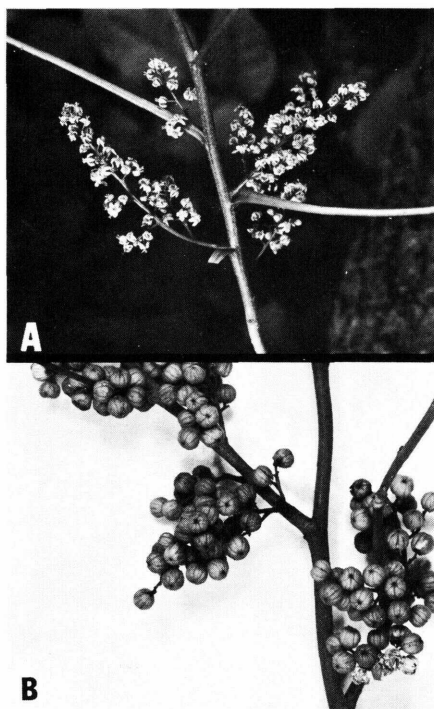
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Figure 5. Common poison ivy growing along fence row.



DN-522, 6993-B

Figure 6. A, Common poison ivy vine with clusters of flowers in the axis of each leaf. B, C, D, E, Less-common leaf forms that may occur on the same or different plants of common poison ivy.



301-A, 7001-B

Figure 7. Common poison ivy: *A*, Flowers; *B*, mature fruit.

Common Poison Ivy¹

The plant is known by various local names—poison ivy, three-leaved ivy, poison creeper, climbing sumac, poison oak, markweed, picry, and mercury. Common poison ivy may be considered as a vine in its most typical growth habit.

Vines often grow for many years, becoming several inches in diameter and quite woody. Slender vines may run along the ground, grow with shrubbery, or take support from a tree. That a plant growing along the edge of a lawn and into the shrubbery may be inconspicuous as compared with a vine climbing on a tree is shown in figure 3, *A*. The vine develops roots readily when in contact with the ground or with any object that will support it. When vines grow on trees, these aerial roots attach the vine se-

curely (fig. 3, *B*). A rank growth of these roots often causes the vines on trees to have the general appearance of a fuzzy rope.

The vines and roots apparently do not cause injury to the tree except where growth may cover the supporting plant and exclude sunlight. The vining nature of the plant makes it well adapted to climbing over stone walls or on brick and stone houses.

Poison ivy may be mixed in with ornamental shrubbery and vines. This often results in its cultivation as an ornamental vine by people who do not recognize the plant. An ivy plant growing on a house (fig. 4) may be prized by an unsuspecting owner. The vine is attractive and sometimes turns a brilliant color in the fall. Do not tolerate its use as an ornamental. This use can result in cases of accidental poisoning, and these plants may serve as propagating stock for more poison ivy in the vicinity.

Poison ivy, mixed in with other vines, may be difficult to detect, unless you are trained in recognizing the plant. Virginia creeper and some forms of Boston ivy often are confused with it. You can recognize Virginia creeper by its five leaflets radiating from one point of attachment. Boston ivy with three leaflets is sometimes difficult to detect. Study a large number of Boston ivy leaves and you

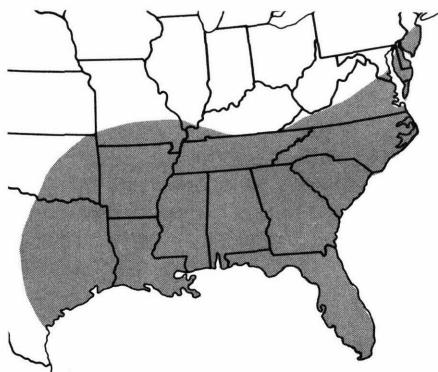
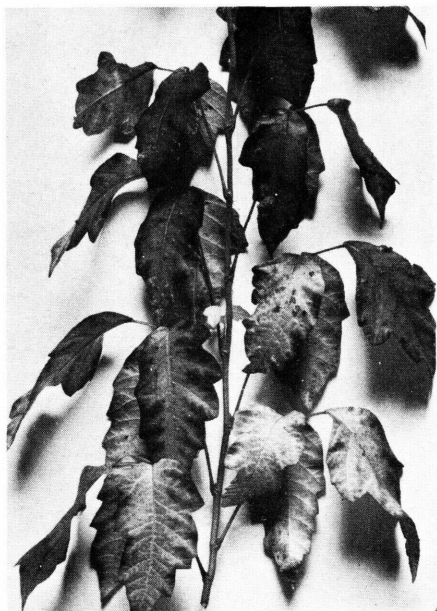


Figure 8. Region where the eastern oakleaf form of poison ivy is likely to occur. Other forms also may be in the same region.

¹ *Rhus radicans*



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Figure 9. Eastern oakleaf poison ivy shrub.

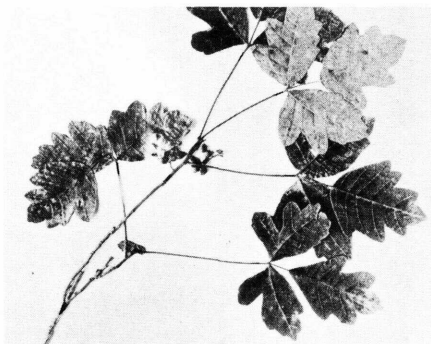
will usually find some that have only one deeply lobed blade or leaflet. Poison ivy always has the three leaflets. A number of other plants are easily confused with poison ivy. Learn to know poison ivy on sight, through practiced observation, then make sure by looking at all parts of the suspected plant.

Common poison ivy in full sunlight grows more as a shrub than as a vine along fence rows or in open fields. In some localities, the common form is a low-growing shrub that is 6 to 30 inches tall. Both forms usually have rather extensive horizontal systems of rootstocks or stems at or just below the ground level. Under some conditions, the vining form later becomes a shrub. Plants of this type (fig. 5) may start as a vine supported on a fence and later extend upright stems that are shrublike. In some localities, the growth form over a wide range is consistently either vine or shrub type. In other areas, common poison ivy apparently may produce either vines or shrubs.

Leaves of common poison ivy are extremely variable, but the three leaflets are a constant character. The great range of variation in the shape or lobing of the leaflets is impossible to describe. The five leaves shown in figure 6 give a fair range of patterns. Other forms may be found. One plant may have a large variety of leaf forms, or it may have all leaves of about the same general character. The most common type of leaf having leaflets with even margins is shown in figure 6, *A*. Other forms in figure 6 are not quite so widespread, but may be the usual type throughout some areas.

Most vines or shrubs of poison ivy produce some rather inconspicuous flowers (fig. 6, *A*) that are always in quite distinct clusters arising on the side of the stem immediately above a leaf (fig. 7, *A*). Frequently, the flowers do not develop or are abortive and no fruit is produced. Poison ivy fruits are white and waxy in appearance and have rather distinct lines marking the outer surface, looking like the segments in a peeled orange (fig. 7, *B*).

In some forms of poison ivy, the fruit is covered with fine hair, giving it a downy appearance; however, in the more common form fruits are entirely smooth. The fruit is especially helpful in identifying plants in late fall, winter, and early spring when the leaves are not present.



BN-19297

Figure 10. Eastern oakleaf poison ivy showing upper deep-green surface and lower lighter-colored surface of leaves.

Oakleaf Poison Ivy²

Oakleaf poison ivy is more distinctive than some other types. Some people call it oakleaf ivy while others call it poison oak, a name more commonly used for western species.

Oakleaf poison ivy usually does not climb as a vine, but occurs as a low-growing shrub. Stems generally grow upright (fig. 9). The shrubs have rather slender branches, often covered with a fine pubescence that gives the plant a kind of downy appearance. Leaflets occur in threes, as in other ivy, but are lobed, somewhat as the leaves of some kinds of oak. The middle leaflet usually is lobed alike on both margins and resembles a small oak leaf, while the two lateral leaflets are often irregularly lobed (fig. 10). The lighter color on the under side of one of the leaves is caused by the

² *Rhus toxicodendron*



Figure 11. The region where western poison oak is likely to occur. Other forms may also be in the same region.



6981-B

Figure 12. Western poison oak growing along roadside. This rank, shrubby growth is typical for most localities.

pubescence, or fine hairs, on the surface. The range in size of leaves varies considerably, even on the same plant.

Western Poison Oak³

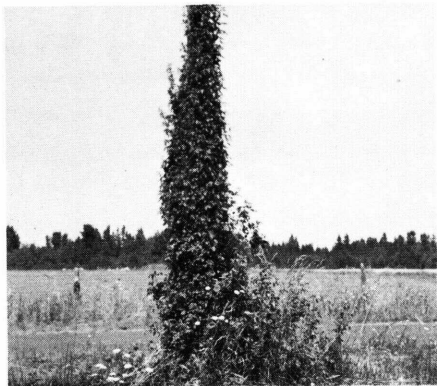
Western poison oak of the Pacific Coast States, usually known as poison oak, occasionally is referred to as poison ivy or yeara. This species is in no way related to the oak but is related to poison ivy.

The most common growth habit of western poison oak is as a rank upright shrub that has many small woody stems rising from the ground. It frequently grows in great abundance along roadsides (fig. 12) and in uncultivated fields or on abandoned land.

Western poison oak sometimes attaches itself to upright objects for support and takes more or less the form of a vine (fig. 13). The tendency is for individual branches to continue an upright growth rather than to become entirely dependent on other objects for support. In some woodland areas, 70 to 80 percent of the trees support vines extending 25 to 30 feet in height.

In open pasture fields, western poison oak usually grows in spreading clumps from a few feet to several feet tall (fig. 14). Extensive growth greatly reduces the area for grazing. It is a serious menace to most people who frequent such areas or tend cattle

³ *Rhus diversiloba*



6977-B

Figure 13. Western poison oak on a telephone pole; not uncommon, especially on trees in woods.

that come in contact with the plants while grazing.

Low-growing plants, especially those exposed to full sunlight, often are quite woody and show no tendency for vining. These plants are common in pasture areas or along roadsides. Livestock in grazing do not invade the poison ivy shrub. As a rule, these plants spread both by root-stock and seed.

As in other ivy, leaves consist of three leaflets with much irregularity in the manner of lobing, especially of the two lateral leaflets. Sometimes lobes occur on both sides of a leaflet, giving it somewhat the semblance of an oak leaf. The middle, or terminal, leaflet is more likely to be lobed on both sides, and resembles an oak leaf more than the other two (fig. 15, *A*). Some plants may have leaflets with an even margin and no lobing whatsoever (fig. 15, *B*). The surface of the leaves is usually glossy and uneven, giving them a thick leathery appearance.

Flowers are borne in clusters on slender stems diverging from the axis of the leaf. Individual flowers are greenish white and about one-fourth inch across. The cluster of flowers matures into greenish or creamy white berrylike fruits about mid-October. These are about the size of small

currants and much like other poison ivy fruits. Many plants bear no fruit, although others produce it in abundance (fig. 16). Fruits sometimes have a somewhat flattened appearance. They remain on plants throughout fall and winter and help identify poison oak after the leaves have fallen.

POISON SUMAC

Poison sumac⁴ grows as a coarse woody shrub or small tree (fig. 17) and never in the vinelike form of its poison ivy relatives. This plant is known also as swamp sumac, poison elder, poison ash, poison dogwood, and thunderwood. It does not have variable forms, such as occur in poison oak or poison ivy. This shrub is usually associated with swamps and bogs. It grows most commonly along the margin of an area of wet acid soil.

Mature plants range in height from 5 or 6 feet to small trees that may reach 25 feet. Poison sumac shrubs, usually do not have a symmetrical upright treelike appearance. Usually, they lean and have branched stems with about the same diameter from ground level to middle height.

Isolated plants occasionally are found outside swampy regions. These

⁴ *Rhus vernix*



6980-B

Figure 14. Western poison oak with fruit growing in open field as an upright shrub.

plants apparently start from seed distributed by birds. Plants in dry soil are seldom more than a few feet tall, but may poison unsuspecting individuals because single isolated plants are not readily recognized outside their usual swamp habitat.

Leaves of poison sumac consist of 7 to 13 leaflets, arranged in pairs with a single leaflet at the end of the midrib (fig. 19).

The leaflets are elongated oval without marginal teeth or serrations. They are 3 to 4 inches long, 1 to 2 inches wide, and have a smooth velvetlike texture. In early spring, their color is bright orange. Later, they become dark green and glossy on the upper surface, and pale green on the lower, and have scarlet midribs. In the early fall, leaves turn to a brilliant red-orange or russet shade.

The small yellowish-green flowers are borne in clusters on slender stems arising from the axis of leaves along the smaller branches. Flowers mature into ivory-white or green-colored fruits resembling those of poison oak

or poison ivy, but usually are less compact and hang in loose clusters that may be 10 to 12 inches in length (fig. 20).

Because of the same general appearance of several common species of sumac and poison sumac, there is often considerable confusion as to which one is poisonous. Throughout most of the range where poison sumac grows, three nonpoisonous species are the only ones likely to confuse. These are the smooth sumac⁵, staghorn sumac⁶, and dwarf sumac⁷, which have red fruits that together form a distinctive terminal seed head (fig. 21, B). These are easily distinguished from the slender hanging clusters of white fruit of the poison sumac (fig. 20). Sometimes more than one species of harmless sumac grow together (fig. 21, A).

When seed heads or flower heads occur on plants, it is easy to distinguish poisonous from harmless plants;

⁵ *Rhus glabra*

⁶ *Rhus typhina*

⁷ *Rhus copallina*



Figure 15. Western poison oak: A, The more common leaves with irregular margins; B, less typical, although not uncommon, leaves with even margins.

6989-B, 6945-A

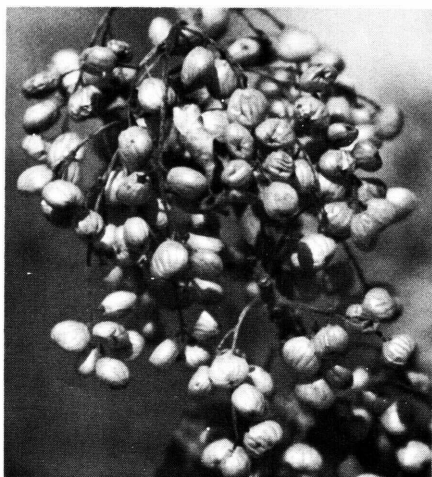
however, in many clumps of either kind, flowers or fruit may not develop. The leaves have some rather distinct characteristics. Leaves of the three harmless species, often mistaken for poison sumac, are shown in figure 22.

Leaves of the smooth sumac (fig. 22, A) and of staghorn sumac (fig. 22, B) have many leaflets, which are slender and lance shaped and have a toothed margin. These species usually have more than 13 leaflets. Leaves of dwarf sumac (fig. 22, C) and poison sumac (fig. 22, D) have fewer leaflets; these are more oval shaped, and have smooth or even margins. The dwarf sumac is readily distinguished from poison sumac by a winged midrib. Poison sumac never has the wing margin on the midrib.

Introduced Poisonous Sumac and Related Species

The small Japanese lacquer-tree (*Rhus verniciflua*), uncommon in the United States, is related to native poison sumac. Native to Japan and China, it may be a source of Japanese black lacquer. Poisoning has followed contact with lacquered articles. Never plant this tree.

A native shrub or small tree (*Metopium toxiferum*) called poisonwood, doctor gum, Metopium, Florida poison tree, or coral sumac is commonly found in the pinelands and hummocks of extreme southern Florida, the Keys, and the West Indies. It is much like, and closely related to, poison sumac. The shrub or small tree has the same general appearance as poison sumac. However, the leaves have only three to seven, more-rounded leaflets. Fruits are borne in clusters in the same manner as those of poison sumac, but they are orange colored and each fruit is two to three times as large. All parts of the plant are poisonous and cause the same kind of skin irritation as poison ivy or poison sumac.



6976-B

Figure 16. Western poison oak showing clusters of fruit after leaves have fallen.

POISONING

Many people know through experience that they are susceptible to poisoning by poison ivy, poison oak, or poison sumac. Others, however, either have escaped contamination or have a certain degree of immunity. The extent of immunity appears to be only relative. In repeated contact with the plants, persons who have shown a degree of immunity may develop poisoning.

The skin irritant of poison ivy, poison oak, and poison sumac is a non-volatile phenolic substance called urushiol, found in all parts of the plant including roots and fruit. It occurs in great abundance in the plant sap. The danger of poisoning is greatest in spring and summer when sap is abundant, and least in late fall or winter.

Poisoning usually is caused by contact with some part of the plant. A very small amount of the poisonous substance can produce severe inflammation of the skin and is easily transferred from one object to another.

Clothing may become contaminated and is often a source of prolonged

infection. Dogs and cats frequently contact the plants and carry the poison to children or other unsuspecting persons. The poison may remain on the fur of animals for a considerable period after they have walked or run through poison ivy plants.

Smoke from burning plants carries the toxin, and can cause severe cases of poisoning.

Children who have eaten the fruit have been poisoned. A local belief that eating a few leaves of the plant will develop immunity in the individual is unfounded. Never taste or eat any part of the plant.

Cattle, horses, sheep, hogs, and other livestock apparently do not get the skin irritation caused by these plants, although they graze on the foliage occasionally. Bees collect nectar from the flowers, but no ill affects from use of the honey have been reported.

The time between contamination of the skin and first symptoms varies greatly with individuals and probably with conditions. The first symptoms



6999-B

Figure 17. Large poison sumac shrub about 15 feet tall, growing on edge of a swamp.

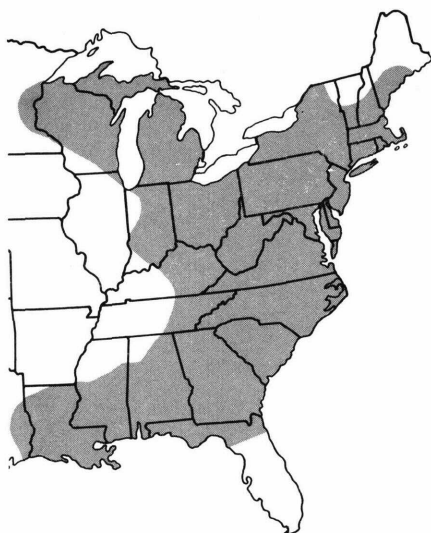
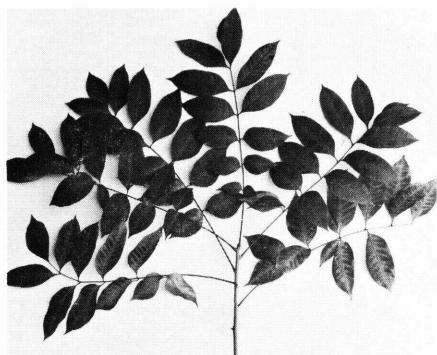


Figure 18. The region where poison sumac is likely to occur; isolated plants are sometimes found in dry soil.

of itching or burning sensation may develop in a few hours or even after 5 days or more. The delay in development of symptoms is often confusing when an attempt is made to determine the time or location when contamination occurred. The itching sensation and subsequent inflammation that usually develops into water blisters under the skin may continue for several days from a single contamination. Persistence of symptoms over a long period is most likely caused by new contacts with plants, or by contact with previously contaminated clothing or animals.

Severe infection may produce more serious symptoms, which result in much pain through abscesses, enlarged glands, fever, or other complications. Secondary infections are always a possibility in any break in the skin, as occurs when water blisters break.

If it is necessary to work among poisonous plants, some measure of prevention can be gained by wearing protective clothing. It is necessary, however, to remember that the active poison can be easily transferred. Some protection also may be obtained by



6998-B

Figure 19. Small branch of poison sumac with six compound leaves.

using protective creams or lotions. They prevent the poison from contact with the skin, or make it easily removable by washing with soap and water, or neutralize it to a certain degree.

Various formulas containing ferric chloride and glycerin have been used more or less effectively as a preventive measure, although the ferric chloride may stain the skin or clothing. Here is a common formula: ferric chloride, 5 parts; glycerin, 25 parts; alcohol, 25 parts; water, 50 parts.

A lotion of this formula applied to the exposed skin prior to contact with poisonous plants gives effective protection for many people. It is especially effective if followed by thorough washing with soap and water. A shower or flowing water bath is preferable. The soap probably only emulsifies the poison, and thorough rinsing is necessary to avoid spreading it to other parts of the body.

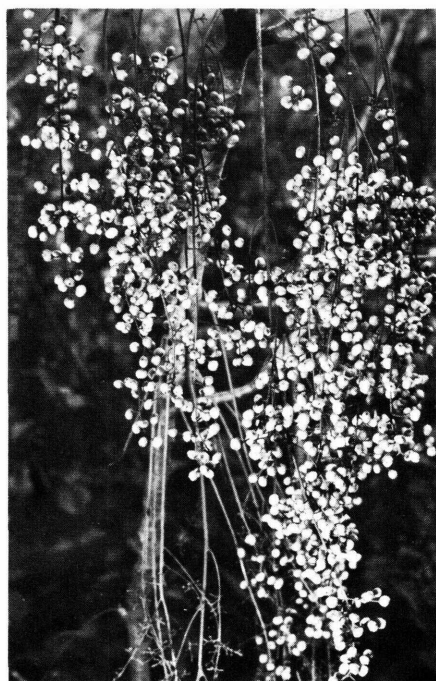
Many ointments and lotions are sold for prevention of poisoning by chemical or mechanical means. Their use should always be followed by repeated washings with soap and water to remove the contaminant.

Contaminated clothing and tools often are difficult to handle without causing further poisoning. Automobile door handles or steering wheels may, after trips to the woods, cause prolonged cases of poisoning among

persons who have not been near the plants. Decontaminate such articles by thorough washing in several changes of strong soap and water. Do not wear contaminated clothing until it is thoroughly washed. Do not wash it with other clothes. Take care to rinse thoroughly any implements used in washing. Dry cleaning processes will probably remove any contaminant; but there is always danger that clothing sent to commercial cleaners may poison unsuspecting employees.

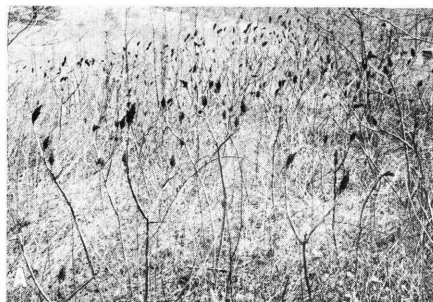
Dogs and cats can be decontaminated by washing; take care, however, to avoid poisoning while washing the animal.

There seems to be no absolute, quick cure for all individuals, even though many studies have been made to find effective remedies. Remedies may be helpful in removing the poison or rendering it inactive, and for giving some relief from the irritation. Mild poisoning usually subsides within a few days, but if the inflammation is



6994-B

Figure 20. Fruit of poison sumac.



6858-B, 6857-B

Figure 21. *A*, Smooth sumac and dwarf sumac growing in a mixed stand. These plants are not poisonous. *B*, Terminal fruiting spikes of smooth sumac, a form typical of nonpoisonous species of sumac.

severe or extensive, consult a physician.⁸

ERADICATION BY MECHANICAL MEANS

Poison ivy can be grubbed out by hand quite readily early in spring and late in fall, if only a few plants are involved. Roots are most easily removed when soil is thoroughly wet. Grubbing when the soil is dry and hard is almost futile because the roots break off in the ground, leaving large pieces that later sprout vigorously. Eradication by grubbing is effective if well done.

Poison ivy vines climbing on trees should be severed at the base, and as much of the vine as possible should be pulled away from the tree. Often the roots of the tree and weed are so intertwined that grubbing is impossible without injury to the tree. Bury or destroy roots and stems removed in grubbing, because the dry material is almost as poisonous as the fresh.

Smoke from burning poison ivy plants or contaminated articles may carry the poison in a dispersed form. Take extreme caution to avoid inhalation or contact of smoke with the skin or clothing.

⁸ See Health Information Series No. 65, Public Health Service, U. S. Dept. of Health, Education and Welfare; for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

Old plants of poison ivy produce an abundance of seeds, and these are freely disseminated, especially by birds. A poison ivy seedling 2 months old usually has a root that one mowing will not kill. Seedling plants at the end of the first year have well-established underground runners that only grubbing or herbicides will kill. Seedlings are a threat as long as old poison ivy is in the neighborhood.

Plowing is of little value in combating poison ivy.

Mowing with a scythe or sickle is not an efficient means of controlling poison ivy. It has little effect on the roots unless frequently repeated.

Weed burners are also inefficient in controlling poison ivy.

ERADICATION BY HERBICIDES

Poison ivy can be destroyed with herbicides without endangering the operator. One usually may stand at a distance from the plants and apply the herbicide without touching them. Most herbicides are applied as a spray solution by sprayers equipped with extension nozzles 2 feet or more in length. The greatest danger of ivy poisoning occurs in careless handling of gloves, shoes, and clothing after the work is finished.

The most satisfactory herbicides for poison ivy are: (1) *amitrole* (3-

amino-1,2,4-triazole); (2) 2,4,5-*T* (2,4,5-trichlorophenoxyacetic acid); (3) *silvex* (2-[2,4,5-trichlorophenoxy] propionic acid); (4) *ammonium sulfamate*; and (5) 2,4-*D* (2, 4-dichlorophenoxyacetic acid). These herbicides are sold under their common names and under various trade names. Less satisfactory herbicides include borax, carbon disulfide, coal tar creosote oil, fuel oil and similar petroleum distillates, sodium chlorate, sodium arsenite, common salt, kerosene, gasoline, calcium cyanamide, ammonium sulfate, and iron sulfate.

Any field or garden sprayer, or even a sprinkling can, can be used for applying the spray liquid, but a common compressed-air sprayer holding 2 to 3 gallons is convenient and does not waste the spray.

Use moderate pressure giving relatively large spray droplets, rather than high pressure giving a driving mist, because the object is to wet the leaves of the poison ivy and avoid wetting the leaves of desirable plants. High pressures cause formation of many fine droplets that may drift to desirable plants.

Follow the manufacturer's recommendations shown on the container label in preparing the spray solution. Cover all foliage, stems, shoots, and

bark of poison ivy with herbicide spray. Although best results normally are obtained soon after maximum foliage development in the spring, applications may be made up to 3 weeks before fall frost is normally expected under good growing conditions in the humid areas.

Many herbicides used on poison ivy will injure most broad-leaved plants. Apply them with caution if the surrounding vegetation is valuable. During the early part of the growing season, the leaves of poisonous plants usually tend to stand conspicuously apart from those of adjacent plants, and they can be treated separately if sprayed with care. Later the leaves become intermingled, and injury to adjacent species is unavoidable. Chemicals other than oil are not injurious to the thick bark of an old tree, and poison ivy clinging to the trunk safely can be sprayed with them. However, cutting the vine at the base of the tree and spraying regrowth may be more practical.

Apply sprays when there is little or no air movement. Early morning or late afternoon, when the air is cool and moist, usually is a favorable time.

No method of herbicidal eradication can be depended on to kill all plants in a stand of poison ivy with one

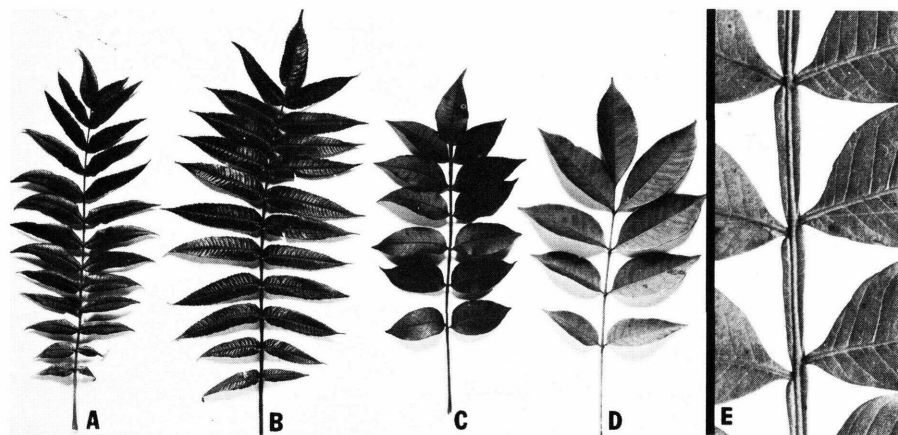


Figure 22. Leaves of species of sumac that are often confused: *A*, Smooth sumac; *B*, staghorn sumac; *C*, dwarf sumac; *D*, poison sumac; *E*, enlarged portion of dwarf sumac leaf from *C*, showing the wing margin of the midrib. Poison sumac does not have the winged midrib.

7003-B, 7002-B

application. Re-treatments made as soon as the new leaves are fully expanded are almost always necessary to destroy plants missed the first time, to treat new growth, and to destroy seedlings. Plants believed dead sometimes revive after many months. An area under treatment must be watched closely for at least a year and re-treated where necessary.

Dead foliage and stems remaining after the plants have been killed with herbicides are slightly poisonous. Cut off dead stems and bury or burn them, taking care to keep out of the smoke.

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PRECAUTIONS

Herbicides used improperly may cause injury to man and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the labels.

Keep herbicides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children and animals cannot reach them.

When handling a herbicide, wear clean, dry clothing.

Avoid repeated or prolonged contact of herbicides with your skin.

Wear protective clothing and equipment if specified on the container label. Avoid prolonged inhalation of herbicide mists.

Avoid spilling herbicide concentrate on your skin, and keep it out of your eyes, nose, and mouth. If you spill any on your skin, wash it off immediately with soap and water. If you spill it on your clothing, remove clothing immediately and wash contaminated skin. Launder the clothing before wearing it again.

After handling a herbicide, do not eat, drink, or smoke until you have washed your hands and face. Wash any exposed skin immediately after applying a herbicide.

Avoid drift of herbicide to nearby crops.

To protect water resources, fish, and wildlife, do not contaminate lakes, streams, or ponds with herbicide. Do not clean spraying equipment or dump excess spray material near such water.

It is difficult to remove all traces of herbicides from equipment. For this reason, do not use the same equipment for applying herbicides that you use for insecticides and fungicides.

Dispose of empty herbicide containers at a sanitary land-fill dump, or crush and bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies. If you have trash-collection service, wrap small containers in heavy layers of newspapers and place them in the trash can.



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